

WILLIAM WALLACE (1791–1837)*

BY

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A few years ago, urged on by the fact that the memory of Wallace seemed to have lapsed—at least in his own city—I began to prepare an account of him. This remained unfinished until your invitation gave me the stimulus which led to its completion.

Wallace's study of venereal disease added to its therapeutics the use of potassium iodide in the treatment of syphilis, which lasted up to the introduction of penicillin. He also demonstrated that the secondary lesions of syphilis are contagious; and he opened in Dublin the first specialized hospital for diseases of the skin in Europe or the British Empire.

His father was a solicitor in Downpatrick, where he was born in 1791. The family connexion with the law was reflected also in his marriage in 1817 to the daughter of Sir Jonas Greene, the Recorder of Dublin. He himself, however, evidently had no attraction to law as a profession, for in 1808, at the age of 17, he took the first step then required of a surgical student—apprenticeship for five years to a regularly educated practitioner. An additional requirement at that time in Ireland was registration at the Schools of Surgery of the Royal College of Surgeons in Ireland, where systematic instruction was given to apprentices. When that College was founded in 1784 one of the principal shortcomings in surgery which it sought to remedy was lack of academic teaching. It is stated in the first Charter "that the publick sustains great injury from the defects in the present system of surgical education in our Kingdom of Ireland. Surgeons of the City of Dublin find themselves incompetent from the want of a Charter to establish a liberal and extensive system of surgical education in our said Kingdom". So it was that in 1789 the College opened its Schools of Surgery. Apprenticeship remained compulsory until 1828, and was finally abolished in 1844. Before the end of Wallace's lifetime that School had become truly "liberal and extensive": it had developed into a complete Medical School, in which a professor of

medicine—John Cheyne, of Cheyne-Stokes respiration—had been appointed in 1813. The School still flourishes, run by the College with the co-operation of the Royal College of Physicians. The Irish Conjoint qualification is nowadays taken exclusively by its students, for whom the College is their Alma Mater.

Wallace entered this School at the time when he was apprenticed in 1808. His first master, Charles Bowden, died in 1810. He was transferred to Charles Hawkes Todd, who was for many years Assistant Secretary to the College. Another apprentice of his was his son, Robert Bentley Todd, who became a distinguished professor of anatomy and physiology in King's College Hospital Medical School, London. The fortuitous change of masters determined Wallace's future career, as he tells us himself. C. H. Todd was surgeon to the Richmond Hospital, where there was quite a number of venereal patients. According to Todd's own statement, there were in Wallace's time 30 such beds, in seven small wards. He was also surgeon to the Lock Hospital, Townsend Street, "which was by far the largest institution for venereal patients in the British Dominions. And during that apprenticeship I performed at both institutions the duties of a house-surgeon. This apprenticeship first gave to my mind its first bias to the study of cutaneous and venereal diseases". While the Richmond Hospital still exists, one will look in vain for the Lock Hospital. From 1819 male patients were no longer taken. In 1946 an attempt was made to disguise its nature by re-naming it the Hospital of St. Margaret of Cortona. Since then it has been demolished, and the site on which it stood converted into a car park.

On June 8, 1813, Wallace received from his College what was then known as the Letters Testimonial (now the Licence). Immediately he went to London for postgraduate study, which he said was "a course but little adopted in this country". He met Thomas Bateman, a pupil of Robert Willan and one of the chief founders of modern dermatology, whose pupil he became. At Guy's Hospital he was clinical clerk to James Laird. He was a pupil of John Pearson,

* Paper read to MSSVD in Dublin, May 29, 1964.

surgeon to the Lock Hospital. Other teachers whose lectures he attended were Joseph Adams, physician to the Inoculation and Small Pox Hospital (author of several books, including one on morbid poisons and a memoir of John Hunter), Sir Astley Cooper, and John Abernethy. Altogether, Wallace was away from Dublin for four years. During this period he was elected a Member of his College in 1815—the equivalent of the modern Fellowship, which replaced Membership by election in 1844. In February, 1816, he was elected a Member of the Royal Irish Academy. Four years before his death in 1837 he graduated M.D. at Edinburgh University, the title of his thesis being *De structura naevorum subcutaneorum*.

In 1817 he returned to Dublin, and married—as mentioned above—a daughter of Sir Jonas Greene, Recorder of Dublin. During the next year, 1818, he founded and maintained at his own expense the Dublin Infirmary for Diseases of the Skin at 20 Moore Street—the first hospital in Europe or the British Empire exclusively devoted to treatment of these complaints. At the time of his death in 1837, some 25,000 cases had been received, but owing to his habit of independence it came to an end with him.

In the same year, 1818, Wallace was appointed surgeon to the Charitable Infirmary in Jervis Street, now referred to simply as Jervis Street Hospital. It is a historic institution—the first voluntary hospital in the British Isles, founded in 1718 by six Dublin surgeons. After several moves it reached Jervis Street, where it was in Wallace's time. This appointment he valued very much because, as he stated, "by having my mind thereby constantly directed to general surgical pathology those more limited views were prevented which might otherwise have been created by an excessive attention to one department, or one class of disease". Two years after this, in 1820, he opened a private Medical School at the rear of his Skin Hospital in Moore Street. It was called at first the Theatre of Anatomy, later the Anatomico-Medical School. His demonstrator here was John Hart, who was subsequently (1837) appointed professor of anatomy at the Royal College of Surgeons in Ireland, and was author of "A description of the skeleton of the fossil deer of Ireland, *Cervus megaceros*" (Dublin, 1825), an important work on the extinct Irish elk. To this school Wallace admitted, free of charge, twelve pupils from the School of Art of the Royal Dublin Society.

He began to investigate the contagiousness of secondary syphilitic lesions in about 1829. In the *Lancet* in 1836 he announced that these may be propagated by artificial inoculation with the matter secreted by condylomata, or the ulcerated surfaces of the eruption, and no other disease can thereby be

produced. He described three ways of inoculating—firstly, the skin could be punctured with a lancet, and the matter of condylomata or ulcers applied to the wound; secondly, the cuticle might be removed by ointment of cantharides, previous to the application of lint immersed in the matter; thirdly, the cutis could be rubbed off by a finger covered with a towel. The occurrence of lesions thus induced he interpreted as evidence for the existence of a peculiar morbid poison. "I was at first", he said, "an advocate for the doctrine of a plurality of venereal diseases." His contemporary, Richard Carmichael, held that there were a number of venereal viruses, each of which produced a distinct form—for example, papular, pustular, phagedaenic, and so on.

Some of Wallace's inoculations were made onto the patient who had the original lesion. But the infective material was in other cases transferred to the bodies of sound persons, who happened to be in hospital with non-syphilitic conditions. In recording these he showed no consciousness of his having committed a serious breach of professional behaviour. The following example is quoted from one of his case-books (1833):

"A triple inoculation with the matter of a condyloma.

The first inoculation.—Matter from the condyloma of a male aged about 30, of three weeks' standing. Had also superficial disease of the lips and throat. Inserted on the arm by rubbing off the cuticle and applying a pad of lint soaked with the matter. Produced a condyloma of precisely the same character as that on the anus. This effect was produced on two parts of the same arm.

Second inoculation.—Matter from the above case applied to a sound person, age 40, lying with a fracture of the leg in hospital. Applied in the same way as above and to the same part of the arm (under). Produced an ulcer, excavated, with elevated rim or margin of a whitish-brown colour, continued to spread to the size of a half-penny. The matter had been applied to the surface the size of a farthing. The inoculation at first failed—think that mercury was given to cure.

Third inoculation.—Matter from the same case applied to a child, the same part, the same way. Produced condylomata in three days."

Wallace's work became known in Germany through Friedrich Jacob Behrend, who translated his book on venereal disease into German in 1842. Behrend also edited a "recent advances" serial on syphilology, entitled *Syphilidologie*, published in Erlangen from 1838–62. In 1839 he referred in this periodical to Wallace's work. The account was read by Johannes Waller, of Prague, who in 1851 published in the *Prager Vierteljahrsschrift für die praktische Heilkunde* an article on the contagiousness of secondary syphilis. Ricord had pronounced authoritatively that the secondary stage of syphilis was not

contagious, but might be transmitted to the offspring. Waller made two successful inoculations—after he had waited for several years for suitable subjects—one on a boy of 12, who had been attending with tinea favosa capitis, and another on a boy of 15 who had been coming to the hospital with lupus for seven years. Both were certainly free from syphilis. Several other workers confirmed Waller's findings. Finally, in 1859, the contagiousness of secondary syphilis was publicly pronounced by a Commission of the Académie de Médecine, which included Ricord, on the basis of four successful inoculations.

Wallace does not reveal what it was that caused him to think of iodine as a therapeutic agent in syphilis. Chlorine and iodine were then substances of considerable interest—Humphry Davy had discovered the elementary nature of chlorine in 1810, while that of iodine was established in 1813 by Gay-Lussac and Davy. Wallace's account of "The treatment of venereal diseases by the hydriodide of potash" was published in the *Lancet* in 1836. His observations on studies of iodine from a pharmacological point of view had shown that iodine enters the system as hydriodic acid, or hydriodide. He could never detect free iodine in any part of the body or its secretions. If free iodine were administered to a dog, in the short space of 15 minutes the stomach contained only hydriodic acid. Iodine in the dog's stomach acted as a violent irritant, whereas potassium iodide might be introduced even in large amounts without irritation. Tincture of iodine also was very irritant. Having decided in what form iodine might best be used, he made up a *Mist. hydriodatus potassae*—two drams of potassium iodide in eight ounces of water, a tablespoonful of which was to be given three times daily. Administration of the substance he controlled by testing the urine for iodine, which was liberated by the addition of dilute solutions of sulphuric acid and chlorine; starch was used as an indicator. The iodide was given until the urine when tested became black as ink.

Wallace also examined several secretions for the presence of iodine in those who were taking potassium iodide. He found it in milk of the nursing mother, whence it could be transmitted to the infant. It was present in saliva and in tears—he claims to have been the first to detect it in the lachrymal fluid, using patients in whom its flow was abundant following iritis. In protein-containing fluid he could not succeed in detecting iodine—for example, blood and liquid obtained *post mortem* in serous cavities—though its presence could be demonstrated after death in the bladder urine.

He made extensive notes on the general effects of potassium iodide on his patients—how it affected

their appetite, strength and spirit, bowels, throat, digestive system, and so on. Finally he concluded that "there is not in the *materia medica* any other medicine as beneficial as a therapeutic agent, and so little injurious to the system, when properly applied".

When one considers his method of dealing with clinical problems, one feels that Wallace's scientific approach was well in advance of his time. But at least one contemporary recognized his contribution to therapeutics—Charles Coggeswell, who published in 1837 his Harveian Prize dissertation on the physiological and medicinal properties of iodine. He wrote concerning the use of potassium iodide in secondary syphilis: "but the widest researches are those of Dr. Wallace. He has made the trial in 142 cases, and from his mode of speaking we may infer that his success has been of no ordinary kind. The full account of his treatment, therefore, of which we have the promise in a separate work, may be looked forward to with a great deal of interest." However, in 1837 occurred Wallace's tragic and premature death, and he did not see the promised second edition of his book on venereal diseases, which appeared in the following year.

One may still see how he kept his clinical records, thanks to the action of the College, who bought from his widow for £50 his case notebooks and original water-colour drawings. The notebooks are as long as foolscap and but 4 inches wide, filled with day-to-day descriptions of lesions, treatment, and the progress of his patients. The hand is small, and obviously written at great speed. The drawings—most of which are of fine quality, in colour—supplemented his notes and were done by professional artists, chiefly William Burke Kirwan and James Connolly. Kirwan lived mainly by cleaning pictures and drawing for anatomists and surgeons, though he later exhibited at the Royal Hibernian Academy as a miniaturist in water-colour. In 1852 he achieved notoriety by his trial in Dublin for the murder of his wife on Ireland's Eye, a small island a mile offshore at Howth. At the trial it was revealed that he had kept a mistress at Sandymount, a suburb of Dublin, by whom he had already eight children. He was found guilty and sentenced to death. However, owing to flaws in the evidence the sentence was commuted to transportation for life. But he must have been in Dublin again in 1876, for a number of drawings bear dated annotations by John Morgan, a surgeon who worked at the Lock Hospital, recording information then given to him by Kirwan, recalling the circumstances in which they were made.

In his anxiety that the hospital for skin diseases which he had founded should be equipped with "every means which promised relief in these most

obstinate affections [he] took every opportunity of ascertaining the state of practice in every quarter from which [he] could hope to gain information". During the search he came upon descriptions by J. C. Gates and the chemist J. P. J. d'Arcet, of Paris, of the use of sulphureous and other fumigation in the treatment of these conditions. He published four books on the subject, in 1820, 1822, 1824, and 1825, in which he related his experiences and gave an account of the fumigation apparatus and medicated baths which had been constructed under his directions. He offered to receive at his Infirmary any who became interested, for whom he would demonstrate the use of the several apparatuses. Those who wished to have one could purchase it from him; any profit from the sale would go toward support of the institution. In the illustrated account of them which he published in Dublin in 1825 will be found a plate showing the local application of vapour or gas to the skin. A seated figure holds the application near the patient. It was not possible to find a portrait of Wallace, but it is very likely that he is the person in the chair, posing for his artist, James Connolly, after whose drawing the plate was engraved.

Wallace's love of experiment led to some painful experiences for a negro patient, Thomas Nichol, who came under his care in April, 1835. He suffered from two or three ulcers on his left leg, which was swollen, and two granulating chancres of the penis, together with a third, which had cicatrized. The ends of his fingers had been lost by frost-bite. He noted that the cicatrices were white, and decided to investigate the process by which healing took place in the skin of a negro. A series of blisters were raised upon the unfortunate Nichol's skin, the cuticle was removed, and daily observations were made and written up with regard to the subsequent changes, which were also recorded in coloured drawings. The notes and drawings may still be examined with interest, and with feelings of amazement at what the poor man must have suffered.

Cameron states in his short biography of Wallace that in College business he was vehement in his denunciation of what he termed the abuses of the College, and that at the meetings of the Members he proved himself an excellent debater. Examination of minutes of these meetings shows that he attended, from November 6, 1815, when he was elected a Member and sworn in, up to his last on October 6, 1837, a total of 108 meetings. The College met quarterly, as required by the regulations, and additionally as business required averaging altogether from about 10 meetings in the earlier years to about 29 in the later. Out of all those he attended, on only six occasions (subsequent to his election) is his name

mentioned in the proceedings. As for rectifying "the abuses of the College", he did in 1821 "give notice that he would at the next quarterly meeting propose a motion to amend the bye-laws respecting the election of the Courts of Censors and Assistants", but took no further action. In 1824 his name was added "to the Committee appointed to take into consideration the present state of the profession of surgery in Ireland both in relation to education and practice", which had been presented at the previous meeting, and was sent back for further consideration. The main problem before this committee was a proposal to admit to examination for the Letters Testimonial candidates who had not served an apprenticeship. This was the first of the discussions which preceded the granting of a second charter to the College in 1828, when apprenticeship ceased to be compulsory. He appeared next in 1826 as giving notice of a motion which sought to exclude from the meeting of examiners to elect a professor in the Schools of Surgery any person who was a candidate for the Chair. His qualifications could better be discussed in his absence, and neither should he be allowed to vote at any election in which he was a candidate. But no more was heard of the motion. In June, 1828, he was an unsuccessful applicant for the Chair of medical jurisprudence. On September 19, 1833, "Mr Wallace having in the course of his speech stated that the Bye-Law enforcing 150 guineas as an apprentice fee had worked badly for the Professors, and that in his opinion when honest men had refused to take apprentices for a less sum, that other persons, Members of the College, had taken them for under-fees: it was moved that these words should be taken down, and Mr. Wallace then withdrew the observation". Following upon this he gave notice that he would move at the next meeting "that the regulations respecting the registry of pupils at the Schools shall be adopted in relation to the pupils of Hospitals". Again, no further action appeared.

The extent of Wallace's reading during the last three years of his life, 1835-37, may be seen in one of the lending books of the College of Surgeons' library which has survived. This volume records all books taken out, the names of the borrowers, and the dates of lending and returning. He had an unblemished record in the latter respect, and incurred no comment or fine for late return. During the period he made 58 borrowings, which reveal the width of his interests—they included, as well as medicine, chemistry, physics, theology, geology, human biology, biography, natural history, hydraulics, optics, and travel. At the time of his death in December, 1837, he had four volumes out, one of which was a paper by A. T. Thomson, M.D., on the

preparation and medicinal use of the ioduret and hydriodate of iron (London, 1834). All were returned during the following month.

Entries in the minute books of Jervis Street Hospital, where he was on the surgical staff, give us some more insight into his personality, and the peculiar difficulties against which he had to strive in his scientific pursuits. By its constitution, this hospital was primarily for surgical patients, particularly accident cases. Two physicians were attached, but since only the surgeons had power of admission they merely looked after any medical conditions which happened to arise in the surgical patients. The effect of Wallace's advent in the hospital in 1818 may be seen from a complaint made in 1820 to the management committee by the senior physician, Dr Brooke. It concerned admissions. He protested against the entry of large numbers of medical cases, the nature of which undoubtedly suggests that Wallace was the culprit. Dr. Brooke pointed out that in 1812, out of 216 admissions 35 were medical, whereas in 1819-20 of 414 admitted 113 fall into the same category. The doctor continues: "Among the medical cases were numbered ophthalmia, as well as diseases of the skin. Not one in 20 of the eye cases, and certainly not one case of diseases of the skin was fit for an hospital which should receive accidents, such surgical cases as actually required manual assistance and continued rest." These he blamed for "the late heavy bills for medicine, the necessity for the second nurse, and the increased consumption of coals and candles".

In the same year, 1820, a surgical colleague, James O'Beirne—who wrote a book on defaecation, which he dedicated to the Lord Lieutenant, and became the first to hold the title of Surgeon Extraordinary to the King in Ireland—had a patient whom he considered to need an operation. The nature of the case is not stated, but a consultation of all the surgeons was held, and all agreed upon the necessity—except Wallace. After the operation O'Beirne had to go away for a short time, during which Wallace was in charge. When he returned he was surprised to find Haughton (the patient) dying. Upon the man's death he held "private conversations with the relative, and expressions to the said person tending to impress her with the belief that Mr. Wallace had been negligent in his professional attendance on the said Haughton". This, of course, was most unprofessional conduct, but worse was to follow, which led to an inquiry by the management committee. The two surgeons, meeting in a ward, held "an unseemly altercation" on the subject of Haughton's death in the presence and hearing of the attendants and patients in the Infirmary. The committee was reluctant to sit in

judgement on what they regarded as "a point of medical etiquette—not directly or indirectly affecting the unimpeached professional character of either party concerned". However, they proceeded to summon the parties before them. Both were censured for the "criminations and recriminations" delivered in public, and of Wallace they added that his "conduct was greatly aggravated by his subsequent speeches and declarations before the management committee, i.e., he said that the operation performed on Haughton ought not to have been attempted (though sanctioned by consultation of the surgeons of the Infirmary), and that if he had not been prevented by the early hour at which the operation took place, he would have resisted the attempt. He persisted in mentioning his opinion respecting the operation . . . implying that the unfortunate termination of the case confirmed his opinion".

It is of interest to note that one of Wallace's medical colleagues was Dominic Corrigan, who succeeded as senior physician on the death of Dr. Brooke in 1829. Corrigan obtained in the following year four beds for the physicians. With this incredibly meagre supply of material he succeeded in producing in 1832 his classical communication on aortic valvular disease.

At that time the surgeons in Jervis Street Hospital attended in monthly rotation. The result of this arrangement was that patients could be admitted by one of them, turned over to another on the expiration of his monthly period of duty, and if remaining longer in hospital came under the care of a third. Naturally, this system was highly frustrating to Wallace, who was unable to follow many cases through from beginning to end.

In 1834, when he could not persuade his surgical colleagues to alter their routine, he wrote a long letter to the management committee. Transcribed in full into the minute book, it presents a vivid picture of the man himself—his style of expression, and his scientific outlook on clinical medicine. He protested against the system of attendance in monthly rotation, which meant that patients passed from the care of those who had admitted them into other hands against the interest of both patient and student, and which prevented a full study of disease, with its treatment.

Of the patient he wrote: "Can there be any much more cruel act committed on a fellow creature labouring under the pains of disease than to deprive him of a medical attendant to whom he may have given his confidence and affections, and this perhaps at the very moment he may be approaching a recovery from a tedious and dangerous malady, or, if you please, when he is sinking into eternity." Having

asked the members of the committee to place themselves in the position of such a person, he continued: "Many poor wretches have I known to shed the tear of affliction in your Hospital in consequence of being deprived of their Medical Attendant, perhaps at the moment their recovery had commenced. Many, very many others have I known to leave your Hospital at the conclusion of the period of monthly attendance rather than fall under the care of a stranger, although being far from convalescent, and though they had but a poor and comfortless home to fly to." Wallace may indeed have been genuinely affected by this unhappy state of affairs, but one cannot help wondering whether he ever reflected similarly upon his inoculations of venereal matter into healthy persons. He referred also in his letter to the effect of the monthly routine on teaching and the scientific practice of medicine. Pupils must indeed be confused at that change in treatment "which very generally follows a change of attendants—you all know the truth of the old adage, 'Doctors differ'." Furthermore, "how can knowledge be acquired if the observer be deprived of the power of prosecuting to a conclusion his investigations? How can science be advanced or the profession improved unless the phenomenon of disease and the action of remedies be noted throughout their whole series and order? How can information be communicated if you have not an opportunity of demonstrating the foundation and truth of the doctrines you advance; and lastly is not the power of acquiring character, and of being useful to the suffering fellow creature greatly diminished when the surgeon is prevented by an interruption to his practice from shewing the results of his mode of treatment and the assiduity of his attentions?"

He proposed that either the beds be divided equally or the rotation so arranged that the patient remained in the care of the same person while he remained in hospital. The reply to his appeal was

that "all the medical gentlemen, with the exception of yourself, having expressed their desire that no alteration be made in the present mode of their attendance, the Committee is unwilling to decide against so large a majority of the professional attendants." Soon after this, new bye-laws were passed which excluded entry to the wards of any contagious or infectious complaint, or any person with chronic sore legs, or with venereal disease.

Wallace attended the hospital for the last time on Saturday, December 2, 1837. On the following Friday he died of typhus at the age of 46. So he passed on to be numbered with so many of his Irish colleagues, of whom in 25 years, from 1817 to 1842, no less than 24 per cent. died in the discharge of their duties mainly from typhus—more than twice the mortality of army officers in combat—and of whom Stokes had remarked: "such a number of my pupils have been cut off from typhus as to make me feel very uneasy when any of them take a dispensary office in Ireland. I look on it almost as going into battle."

This outspoken individualist and scientific clinician departed from among his fellow men without, as far as can be discovered, any expression of their regret. On the day after his death the management committee met, and summoned a meeting to appoint his successor. It was their usual custom to give tribute to members of the staff who had given long service, like that of Wallace for 19 years, but none is recorded for him. The Skin Infirmary in Moore Street, which he had founded, and maintained for an equal period, ended with him. The dermatologist or venereologist who to-day may be moved to make a pilgrimage to its site will discover that the street is now a lively market for the sale of all kinds of provisions, in the shops and on the kerbs outside them, and that the tenure of No. 20 by a noted firm of fishmongers, who took over not long after the Infirmary had closed, continues to this day.